

neath rails 151 and 153 as well as shaft 147 and over tape supply nozzle 135.

In operation, a tape passing between guide rails 169 and 171 on plate 115 may be advanced a predetermined amount by actuation of stepping motor 157 so as to cause a predetermined rotation of shaft 163 and the friction rollers 165 and 167 mounted thereon. Likewise, the tape may be cut by actuation of the stepping motor 139 and the concomitant rotation of shaft 147 causing slider 149 (which is fitted with a knife edge) to slide across the width of the tape on plate 115. In this regard, for example, switch 81 on handgrip 69 can actuate stepping motor 157 so as to cause the tape to advance in a predetermined amount. Likewise, switch 84 can be connected to stepping motor 139 so as to cause movement of slider 149 across the tape. It should be noted, however, that switch 84 alternatively changes the polarity of electrical current fed to stepping motor 139 so as to alternately draw the slider across and then back across the plate 115. As the tape passes over tape supply nozzle 135 joint compound is applied to the lower face 173 of the tape 175.

Turning now to FIGS. 8 and 9, a second plate 177 is releasably attachable to the delivery section 67 of the handle. In this regard, as may best be seen in FIG. 9, supply nozzles 125 and 127 may be respectively received in passages 179 and 181 in a snap-fit or force-fit manner. Passage 179 communicates with an orifice 183 formed in plate 177. The orifice 183 is fitted with a gate 185 which is pivotally mounted on plate 177 so as to be moveable from a first position in which fluid passage through the orifice is prevented to a second position (as shown in FIG. 9) wherein fluid passage through orifice 183 is permitted. The gate may be biased, by a torsion spring 187, so as to be yieldably urged to the first position.

In a similar manner, passage 181 communicates with an orifice 189 formed in plate 177. Orifice 189 is also fitted with a gate 191 pivotally connected to plate 177 so as to be moveable from a first position in which fluid flow through the orifice is prevented and a second position in which fluid flow through the orifice is permitted. Gate 191 may also be biased, as by torsion spring 193, so as to yieldably urge the gate to the first position. Rollers 195, 197 and 199 may be supported on a shaft 201 which in turn is journaled in a support member 203 carried in bore 205 formed in the plate 177. A biasing spring 207 yieldably urges the rollers downwardly so as to force the lower side 173 of tape 175 into contact with wallboard 209. A first resilient wiper blade 211 adjustably mounted in the plate 177 as by a screw support 213 smoothes and spreads joint compound delivered through the orifice 183. A second flexible wiper blade 215 adjustably mounted in plate 177 as by screw support 217 moves and spreads the joint compound delivered to the wallboard through orifice 189. A printing roller 219 may be provided with a surface pattern matching the surface pattern of the wallboard 209 so as to aid in disguising the position of the seams formed by the present apparatus. The roller 219 may be supported by support 221 which in turn is pivotally attached to plate 177 and may be biased into contact with the seam surface as by a torsion spring 223.

As shown in FIG. 10, the second support plate may also be formed in other configurations so as to allow specialized taping operations, e.g. the taping of inside corners. In this regard, the plate is formed in two sections 177A and 177B which are at right angles to one

another. A pair of printing rollers 219A and 219B is also provided, each of the rollers being disposed so as to imprint one side of the seam. Likewise, a pair of rollers 195A and 195B are also provided so as to bias the tape into contact with the respective sides of the seam. A pair of orifices 183A and 183B are provided so as to place a first coat of joint compound on the upper surface of the tape and these orifices are controlled in a manner similar to the flat taping head shown in FIGS. 8 and 9 by the provision of gates 185A and 185B. Likewise, a pair of second orifices 189A and 189B are also provided so as to place a second coat of joint compound on the tape. Although not shown in FIG. 10, a pair of gates analogous to gate 191 in the flat taping head may also be provided to control the flow of joint compound through orifice 189A and orifice 189B. A first wiper 211' and a second wiper 215' are also provided so as to spread and smooth the respective coats of joint compound.

In operation, the operator will turn on the apparatus as by the depression of switch 82 which causes power to be supplied to motor 59 which drives pump 13. However, the pressure developed by pump 13 is insufficient by itself to overcome the biasing action of springs 187 and 193 in maintaining gates 185 and 191 in the closed position. However, joint compound will be supplied through tape supply nozzle 135 to the underside of the wallboard tape. Immediately upon turning on the apparatus, the operator will then activate the wallboard tape advance so as to cause the coating of the bottom portion of a predetermined length of wallboard tape which will then be placed into contact with the wallboard 209 by pressure from rollers 195, 197 and 199. The wallboard tape which is so pressed against the wallboard is effectively adhesively adhered to the wallboard and the operator may now move the taping head downwardly (or upwardly) along the wall so as to draw tape from the tape supply wheel (the rollers 165 and 167 permitting such passage of the tape slidingly thereover). With the beginning of motion of the taping head across the wall, the operator may then activate motor 61 driving pump 15 so as to overcome the bias of springs 187 and 198 holding gates 185 and 191 shut. By controlling the operation of pump 15, the operator may control the amount of joint compound being fed to the head so as to suit the particular application conditions being dealt with. When the operator comes to the end of the stroke, the knife edge carried on slider 149 may be activated so as to cut the tape off and allow the operator to finish the end of the tape. This cycle may then be repeated in taping the next seam in the operation.

In the case where the operator is merely patching nail or screw holes in the wallboard, e.g. or in those situations where no tape feed is desired, the valve 133 may be closed so as to prevent the feed of joint compound through tape supply nozzle 135 and joint compound may be fed exclusively through orifice 183 and orifice 189.

In order to effectuate the process and apparatus of the present invention, it is necessary to utilize a fast-drying joint compound like those discussed hereinabove so as to allow multiple coats to be disposed one upon the other in a substantially simultaneous manner.

As previously noted, the present apparatus allows for the taping of joints between pieces of wallboard by the substantially simultaneous steps of (a) applying a first layer of a joint compound to the joint between pieces of wallboard, the first layer of joint compound having a